

De Gull Wing

Two Dollars

"FOR MEMBERS ONLY"

Volume 7, No. 1

OFFICIAL PUBLICATION FOR OVER 3000 MEMBERS OF THE DELOREAN MOTOR CLUB OF AMERICA, INC.

BRAKE SYSTEM TROUBLESHOOTING

Problems and Possible Causes

BRAKE CHATTER, SQUEAL OR SQUEAK:

- Dust on brake pads
- Worn pads
- Uneven rotor surface
- Excessive lateral rotor runout

EXCESSIVE PEDAL TRAVEL:

- Excessive rotor runout
- Brake fluid boil
- Warped or excessively worn pads

LEAKS IN CALIPER PISTON CYLINDER:

- Damaged or excessively worn caliper piston seal
- Deep scores or corrosion on surface of cylinder bore

RATTLING IN FRONT BRAKES:

- Pad anti-rattle clip broken or missing
- Excessive clearance between pads and caliper

PULL WHEN BRAKE APPLIED:

- Incorrect tire pressure
- Front end out of alignment
- Unmatched tires
- Restricted brake lines or hoses

EXCESSIVE PEDAL PRESSURE REQUIRED:

- Pads coated with brake fluid, oil or grease
- Entire pad not contacting rotor
- Scored brake rotors
- Incorrect pads
- Seized piston

LOW PEDAL EFFECT:

- Air in hydraulic system, brakes not properly bled
- Hydraulic fluid leaking past primary cup in master cylinder
- Bleeder screw not tight

UNEVEN BRAKING:

- Pads contaminated
- Unmatched disc pads
- One or more seized pistons
- Incorrect tire pressure
- Front wheels out of alignment
- Brake hose or line clogged
- Caliper alignment improper

BRAKE PEDAL PULSATION:

- Excessive rotor lateral runout
- Rotor not parallel
- Wheel bearings out of adjustment

SPONGY PEDAL:

- Air in brake pedal
- Swollen brake hose(s)
- Brake fluid boiling point too low
- Filler cap vent hole plugged

PEDAL YIELD UNDER SLIGHT PRESSURE:

- Deteriorated check valve
- External brake fluid leaks
- Internal leak in master cylinder

BRAKE FAILURE OR HEAVY PEDAL:

- Power unit diaphragm damaged
- Check valve malfunctioning
- Defective vacuum hose
- Twisted air valve and valve rod plunger

BRAKES REACT SLOWLY:

- Check valve malfunction
- Vacuum hose blocked or broken
- Air cleaner clogged or restricted

BRAKE DRAG OR SLOW RETURN:

- Push rod out of alignment
- Operating rod out of adjustment
- Air valve and push rod plunger twisted

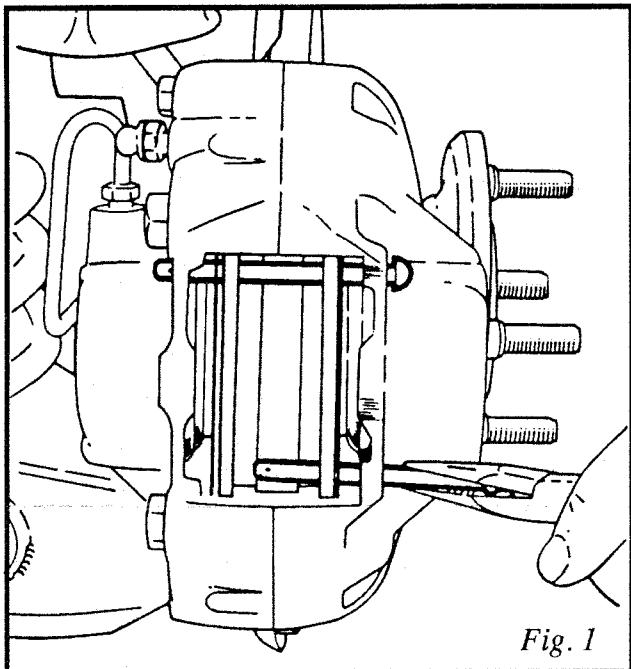
TECHNICAL TIPS

FRONT AND REAR BRAKE REPLACEMENT

FRONT BRAKE PADS

INSPECTION

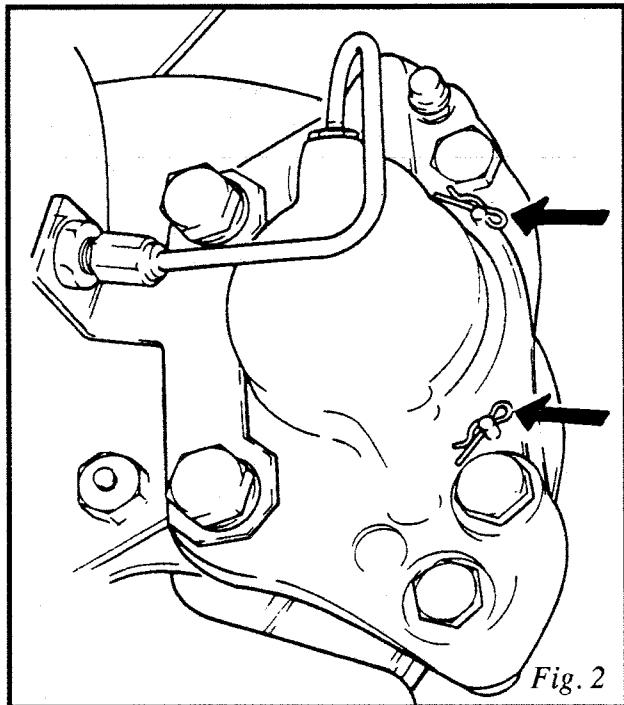
1. Raise car on hoist and remove front tire and wheel assemblies.
2. Measure the thickness of the brake lining material on all pads. If the thickness of brake lining material on one or both pads is less than $\frac{1}{8}$ " thick (3mm) replace all pads.
NOTE: Always replace pads in complete sets, on both sides.
3. Install tire and wheel assemblies and torque to specification (60 lbs - 80 NM).
4. Lower car.



FRONT BRAKE DISC PADS-REPLACE

1. Raise car on hoist.
2. Remove tire and wheel assembly.
NOTE: When disc pads are being replaced, all pads on both front wheels should be replaced at the same time.
3. Clean exterior of the caliper assemblies with a wire brush and note the location and position of damping shims.
4. Remove pad retaining pin clips from retaining pins and remove pad and retaining pins (Fig. 1)
NOTE: Inspect the condition of the clips. If worn or corroded, install new clips on reassembly. (Fig. 2)
5. Remove the disc pads from the caliper assembly.

6. Inspect piston dust covers for damage, deterioration or leakage. Replace as required.



INSTALLATION

1. Remove protective cap on brake fluid reservoir and place a clean shop towel over the opening to catch any displaced brake fluid.
2. Evenly press each piston back into its bore.
3. Clean pad gap area of caliper before installing new pads.
4. Using new anti-squeal shims, smear the special grease provided on both sides of the the anti-squeal shims and on the back plates of the new pads.
NOTE: Make certain no grease gets on the brake pad lining material.
5. Insert new brake pads and anti-squeal shims. The anti-squeal shims are to be placed between each brake pad and piston with the arrow shaped perforation pointing in the direction of disc rotation. (Fig. 3)
6. Install the pad retaining pins and secure with pin retaining clips.
7. Repeat this procedure on the other side.
8. Slowly pump the brake pedal to move the pistons and pads up to the disc.
9. Brake bleeding is generally unnecessary, but check the brake fluid reservoir for proper fluid level level ("MAX" mark on reservoir) and top up with fresh brake fluid as required.

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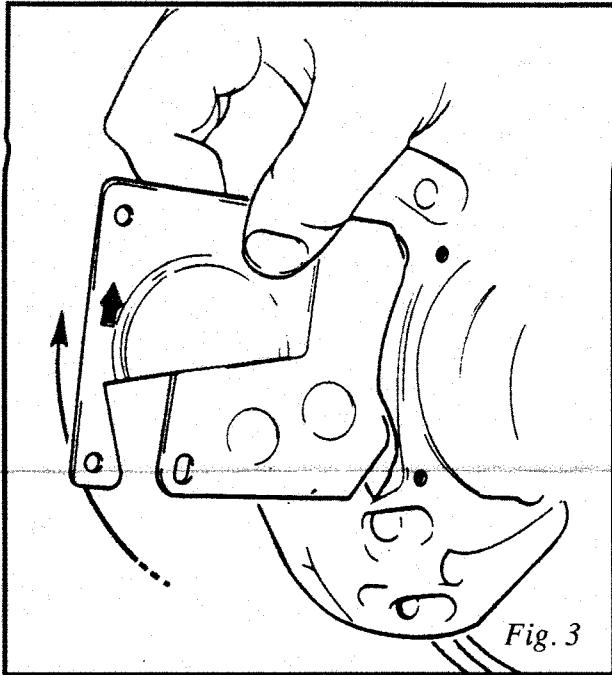


Fig. 3

10. Install tire and wheel assemblies and torque to specification.
11. Lower car on hoist.

REAR BRAKE PADS

REAR BRAKE PADS-INSPECTION

1. Raise car on hoist and remove rear tire and wheel assemblies.
2. Measure thickness of brake lining material on all parts. If the thickness of brake lining material on one or both parts is less than $\frac{1}{8}$ " thick (3 mm) replace pads.
NOTE: Always replace pads in complete sets on both sides.
3. Install tire and wheel assemblies and torque to specification. (60 lbs - 80 NM)
4. Lower car.

REAR BRAKE DISC PADS-REPLACE

1. Raise car on hoist and remove both rear tire and wheels assemblies.
NOTE: When brake disc pads are being replaced, all service pads on both rear wheels should be replaced at the same time.
2. Clean exterior of caliper assemblies with wire brush.
3. Remove pad retaining pin clips from retaining pins and remove pad retaining pins.
NOTE: Inspect condition of clips. If worn or corroded install new clips on reassembly.
4. Remove disc pads and damping shims from caliper assemblies.
5. Inspect piston dust covers for damage, or deterioration. Replace as required.

INSTALLATION

1. Remove brake fluid reservoir cap and place a clean shop towel in opening to catch any displaced fluid.
Remove protective cap on bleed screw and open bleed screw one full turn to prevent fluid pressure from building up when caliper pistons are pushed back.
2. Evenly press each piston back into its bore.
3. Tighten the bleed screw.
4. Clean pad gap area of caliper before installing new pads.
5. Insert new brake pads.
6. Install brake pad retaining pins and secure with pin retaining clips.
7. Repeat this procedure on other rear caliper.
8. Slowly pump brake pedal to move pistons and pads up to disc.
9. Brake bleeding is generally unnecessary, but check brake fluid reservoir for proper fluid level (MAX mark on reservoir) and top up with fresh brake fluid as required.
10. Install tire and wheel assemblies and torque to specification. (60 lbs - 80 NM)
11. Lower car.

Brake Pads (set of 4)	\$48.00
Anti-squeal Shims (set of 4)	\$6.50
105543-Brake Master Cylinder	\$115.00

DATA

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